Perioperative Temperature Management

**Description:** Percentage of patients, regardless of age, undergoing surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer, except patients undergoing cardiopulmonary bypass, for whom either active warming was used intraoperatively for the purpose of maintaining normothermia, OR at least one body temperature equal to or greater than 36 degrees Centigrade (or 96.8 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time.

**Denominator:** All patients, regardless of age, undergoing surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer, except patients undergoing cardiopulmonary bypass.

**Numerator:** Patients for whom either:

- Active warming was used intraoperatively for the purpose of maintaining normothermia OR
- At least one body temperature equal to or greater than 36 degrees Centigrade (or 96.8 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time.

**Numerator Instructions:** The anesthesia time used for this measure should be the time recorded in the anesthesia record.

**Definition:** **Active Warming** – For purposes of this measure, active warming is limited to over-the-body active warming (e.g., forced air, warm-water garments, and resistive heating blankets).

**Rationale:** Anesthetic-induced impairment of thermoregulatory control is the primary cause of perioperative hypothermia. Even mild hypothermia (1-2°C below normal) has been associated in randomized trials with a number of adverse consequences, including: increased susceptibility to infection, impaired coagulation and increased transfusion requirements, cardiovascular stress and cardiac complications, post-anesthetic shivering and thermal discomfort. Whether the benefits of avoiding hypothermia in patients undergoing cardiopulmonary bypass (CPB) outweigh potential harm is uncertain, because known complications of CPB include cerebral injury, which may be mitigated by mild hypothermia. Therefore, patients undergoing CPB are excluded from the denominator population for this measure. Several methods to maintain normothermia are available to the anesthesiologist in the perioperative period; various studies have demonstrated the superior efficacy of over-the-body active warming (e.g., forced air, warm-water garments, and resistive heating blankets).

**Clinical Recommendation Statements:** The following evidence statements are quoted verbatim from the referenced clinical guidelines: American College of Cardiology Foundation/American Heart Association recommend:

- Maintenance of body temperature in a normothermic range is recommended for most procedures other than during periods in which mild hypothermia is intended to provide organ protection (eg, during high aortic cross-clamping) (Class I, Level B)

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